National Institute of Environmental Health Sciences

Use of residential wood heating in a context of climate change: A population survey in Quebec (Canada)

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Abstract:

BACKGROUND: Wood heating is recommended in several countries as a climate change (CC) adaptation measure, mainly to increase the autonomy of households during power outages due to extreme climatic events. The aim of this study was to examine various perceptions and individual characteristics associated with wood heating through a survey about CC adaptations. METHODS: A telephone survey (n Euro Surveillance (Bulletin Europeen Sur Les Maladies Transmissibles; European Communicable Disease Bulletin) 2,545) of adults living in the southern part of the province of Quebec (Canada) was conducted in the early fall season of 2005. The questionnaire used closed questions and measured the respondents' beliefs and current adaptations about CC. Calibration weighting was used to adjust the data analysis for the respondent's age and language under stratified sampling based on health regions. RESULTS: More than three out of four respondents had access to a single source of energy at home, which was mainly electricity; 22.2% combined two sources or more; 18.5% heated with wood occasionally or daily during the winter. The prevalence of wood heating was higher in the peripheral regions than in the more urban regions, where there was a higher proportion of respondents living in apartments. The prevalence was also higher with participants completely disagreeing (38.5%) with the eventual prohibition of wood heating when there is smog in winter, compared to respondents somewhat disagreeing (24.2%) or agreeing (somewhat: 17.5%; completely: 10.4%) with the adoption of this strategy. It appears that the perception of living in a region susceptible to winter smog, smog warnings in the media, or the belief in the human contribution to CC, did not influence significantly wood heating practices. CONCLUSION: Increased residential wood heating could very well become a maladaptation to climate change, given its known consequences on winter smog and respiratory health. It would thus be appropriate to implement a long-term national program on improved and controlled residential wood heating. This would constitute a "no-regrets" adaptation to climate change, while reducing air pollution and its associated health impacts.

Source: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2430962

Resource Description

Communication: ☑

resource focus on research or methods on how to communicate or frame issues on climate change; surveys of attitudes, knowledge, beliefs about climate change

A focus of content

Communication Audience: ☑

audience to whom the resource is directed

Public

Exposure :

weather or climate related pathway by which climate change affects health

Air Pollution, Temperature, Unspecified Exposure

Air Pollution: Ozone, Particulate Matter

Temperature: Extreme Cold

Geographic Feature:

resource focuses on specific type of geography

Rural, Urban

Geographic Location:

resource focuses on specific location

Non-United States

Non-United States: Non-U.S. North America

Health Co-Benefit/Co–Harm (Adaption/Mitigation):

specification of beneficial or harmful impacts to health resulting from efforts to reduce or cope with greenhouse gases

A focus of content

Health Impact:

specification of health effect or disease related to climate change exposure

Injury, Morbidity/Mortality, Respiratory Effect, Other Health Impact

Other Health Impact: Emergency room visits; Hospitalizations

Mitigation/Adaptation:

mitigation or adaptation strategy is a focus of resource

Adaptation

Population of Concern: A focus of content

Population of Concern:

populations at particular risk or vulnerability to climate change impacts

Children, Elderly, Low Socioeconomic Status

Other Vulnerable Population: Pre-existing health conditions

Resource Type:

format or standard characteristic of resource

Policy/Opinion, Research Article

Timescale:

time period studied

Time Scale Unspecified